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ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST

CAMBODIA, LAOS, THAILAND AND VIET-NAM

Committee for Co-ordination of Investigations
of the Lower Mekong Basin

PLAN OF OPERATION

SURVEY OF THE POWER MARKET FOR NORMAL DOMESTIC, COMMERCIAL AND INDUSTRIAL USES IN THE LOWER MEKONG BASIN

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CHAPTER I

INTRODUCTION

At its Seventh Session, held in Tokyo from 7 to 26 March 1962, the Committee for Co-ordination of Investigations of the Lower Mekong Basin (hereinafter referred to as the "Committee") examined the White Mission's report ("Economic and Social aspects of the development of the Lower Mekong") prepared by Gilbert F. White, Egbert de Vries, Harold B. Dunkerley and John V. Krutilla for the Committee.

Of the fourteen recommendations in the White Mission's report, the Committee accorded highest priority to the tenth, concerning a full study of the potentialities of the power market, and expressed the hope that the necessary means would quickly be found to carry out this recommendation.

At its Eighteenth Session, held at Bangkok from 8 to 10 May 1962, the Committee accepted the French Government's offer to bear the cost of the survey of the power market for normal domestic, commercial and industrial uses.

The purpose of this survey is to draw up a complete inventory of the present means of power generation (existing plants or projects under construction) and the nature and trends of consumption, in order to assess accurately the economic value and potential growth of the national power market in the various countries represented in the Committee.

These data will indicate the measures needed to ensure harmonious development of the distribution systems designed to satisfy those needs.

The analysis of the potential power market will cover national power demand for normal domestic, commercial and industrial purposes, excluding that of transformer plants whose operations are oriented towards export to regional and extra-rgional markets or to the inter-regional or world markets.

/CHAPTER II

CHAPTER II

GENERAL DESCRIPTION OF THE PROJECT

In meeting the above programme, the survey will cover, for each region, the following main points:

1. GENERAL STATISTICS

These statistics must relate to at least the past ten years, longer if possible:

a) Population:

All data will be collected, especially as regards the distribution of population, with a breakdown by area.

The density of each of these areas shall be studied in consultation with local authorites whenever general statistics are lacking or the census dates from a long way back.

The breakdown by age group, including the number of homes or persons living under the same roof shall be carefully recorded and studied.

The way of life of the population, whether urban or rural, is also an important factor for the study of the development of the power market.

The distribution of the population by branch of activity shall be determined for the following sectors:

- Agriculture
- Trade
- Handicrafts
- Industry
- Services

The knowledge of the standard of living is also one of the factors of the overall survey. Although the definition of the standard of living is subject to discussion, it can provide interesting indications when compared with data collected in other areas.

/b) Economic

(b) Economic situation

The evolution of the gross national income shall be studied, together with the breakdown by sectors of activity.

(c) Agriculture and irrigation

Publications concerning the types of crops, levels of production and forms of irrigation shall be carefully studied with a view to assessing the possibilities of increased power consumption.

(d) Domestic and foreign trade

All statistics published by the relevant services shall be noted. In particular, the following shall be studied:

- Local industrial production
- Imports and exports
- Balance of trade.

(e) Industrial activity

The survey shall consider raw material resources and industries, in particular their location, communication lines, development projects, etc.

(f) Power production and consumption

All publications concerning the various forms of power generation - electricity, coal, wood, etc. - shall also be examined.

The survey shall cover the various fuels, taking into consideration:

- National fuel resources: solid, liquid, and gaseous.

In addition, the following shall be surveyed:

. Deposits being worked, including their location, production level and future development projects.

. Deposits observed but not exploited, including estimated tonnage.

. Transportation of fuels.

/- Fuels imported

- Fuels imported including origin and tonnage,
  . Supply security
  . Processing (refineries, etc.)
- Fuel market in the area of the country concerned.

2. PRESENT PRODUCTION AND CONSUMPTION OF ELECTRIC POWER

In each district, the survey shall deal with the following factors:

(a) Production

The following factors to be assessed: capacity, price, conditions, nature of supply, type of average producer.

(b) Transmission and distribution

Under this heading, the survey shall consider capacities, value, extent of networks, voltages used.

(c) Consumption

The following points shall be studied in detail: number of subscribers, installed capacity, peak demand, uses, type of consumption, load curve.

(d) Utilization

This survey shall determine the types of utilization, activity, operation, rates.

(e) Needs not met

In addition to the survey of those needs, the investigation shall include an analysis of the reasons for which restrictions are imposed on the development of power consumption (inadequate means of production or networks, high rates, etc.)

3. ESTIMATES OF CONSUMPTION INCREASES

Estimates of growth shall be established by districts. They shall include estimates of peak power demand and annual output to cover power requirements for domestic, commercial and industrial purposes.

/In order

In order to establish those estimates, a study of the evolution of past consumption increases shall be carried out. Those data shall be compared with:

- Those of other countries
- The evolution of national income and of total economic index numbers insofar as they have been recorded in statistical statements.
- The number of subscribers.

All the estimates will cover the next twenty years, but will be more accurate for the first ten years.

4. DEVELOPMENT PROGRAMME

In order to remain within the framework of the general survey on power requirements for normal domestic, commercial and industrial uses, the development programmes shall be based mainly on the following points:

- Reinforcement and extension of existing networks
- Construction of new network.

In the light of existing information on the Mekong hydroelectric projects and more general investigations, in particular concerning the possibilities of of producing electric power in a rainy year, a dry year and an "average" year, as well as the rules for optimum management of hydraulic resources. Projects for development of thermal production (basic load plants and peak load plants) shall also be considered.

- Survey of possibilities of local output
- Estimates of cost necessary to cover the needs of all or part of the population.
- Finance planning to cover the needs of all or part of the population

5. POSSIBLE CREATION OF PILOT DISTRICTS

In order to develop or stimulate power consumption, taking into account existing installations, data shall be given concerning the possible creation of such districts.

/6. RECOMMENDATIONS

6. RECOMMENDATIONS

Finally, the survey shall include a certain number of recommendations designed to promote the development of the national power markets in the participating countries of the Committee for coordination of investigations of the Lower Mekong Basin.

/CHAPTER III

CHAPTER III

PROGRAMME OF WORK

Total duration of the survey: 24 months.

The mission will consist essentially of a Project Manager, who will reside in each of the four riparian countries as required by the survey. He will be assisted, at his request, by investigation teams from France, who will visit the areas to be surveyed.

As a market survey had already been carried out for Thailand, the work relating to that country will consist mainly in completing already available data, so that an integrated overall plan can be drawn up for the four riparian countries.

1. FIRST STAGE: Preparation

Duration: 6 months

- First contacts of the Project Manager with the Committee and the various national and international bodies concerned with the Mekong: 1 month.

Collection and comparative, critical assessment of existing documents on the subjects under investigation in order to determine which items remain to be covered. At this stage provision will have to be made for the project manager to spend two to three weeks in the capitals of the riparian countries to enable him to contact the relevant authorities in each of them and to prepare the second stage of the mission: 3 months.

Preparation in consultation with the relevant authorities of each government of a detailed programme of investigations to be carried out in the areas under survey. This programme will lay down not only the work schedule to be followed but also the form of the questions to be asked and the information to be obtained in order to facilitate its ultimate utilization: 2 months.

2. SECOND STAGE: Detailed investigations

Duration: 12 months

/These surveys

These surveys will be conducted by specialized teams in the areas for which data are lacking.

Basically, this will involve a mission of about 2 to 3 months in each of the riparian countries. The final months would be used to obtain any additional data that may prove necessary in the areas where the general survey has already been conducted.

All the surveys will be supervised by the Project Manager and carried out on his authority with the help of the Counterpart Manager appointed for each of the riparian countries /Chapter V, para. 2(a)/. As it is collected, all the information will be sent to him in the requisite form for filing and collation. He will personally visit the main centres to maintain official relations both with the national Committees and with the other agencies with which the survey teams have to be in contact.

3. THIRD STAGE: Data processing

Duration: 6 months

- Collation of the information obtained;
- Preparation of a statistical plan;
- Drafting of the final report.

/CHAPTER IV

CHAPTER IV

PRIVILEGES, IMMUNITIES AND SERVICES

1. The French personnel of the surveys mission which will be organized to carry out this project (hereinafter referred to as "the mission") shall have a right to the following privileges and immunities:

a. Immunity from national service obligations;

b. Immunity from immigration restrictions;

c. The privilege of bringing into the country reasonable amounts of foreign currency for the purposes of the Project or for personal use, and of withdrawing any such amounts brought into the country or, in accordance with the relevant foreign exchange regulations, such amounts as may be earned therein by such personnel in the execution of the Project.

d. The same repatriation facilities in the event of international crises as diplomatic envoys.

2. The Government shall either exempt the mission and its French personnel from or bear the cost of any taxes, duties or fees to which they may be liable in respect of:

a. The salary or wages earned by such personnel in the execution of the Project;

b. Any equipment, materials and supplies brought into the country in accordance with this plan of operation or which, after having been brought into the country, may be subsequently withdrawn therefrom;

/ c.

c. Their personal effects including one privately owned automobile for each member, if imported within six months after the owner's first arrival to take up their posts in the riparian countries;

d. To the extent that the members are required to perform services under this plan of operation, unless otherwise provided, the members shall comply with all applicable laws, rules and regulations, including those of provinces, municipalities and other governmental units thereof in the riparian countries.

3. The privileges and immunities to which the mission or its personnel may be entitled, may be waived by the French Government where, in its opinion, the immunity would impede the course of justice and can be waived without prejudice to the successful completion of the Project or to the interests of the mission.

/ CHAPTER V

CHAPTER V

OBLIGATIONS

1. France

France shall finance the mission with an allocation of NF 800,000. This allocation will enable the Société Française d'Etudes et de Réalisations d'Equipments Electriques (SOFRELEC) to carry out this survey of the power market for normal domestic, commercial and industrial uses in the Lower Mekong basin.

Furthermore, France shall appoint a Project Manager who shall be authorized to communicate directly with the Executive Agent and with the participating countries and organizations on all matters relating to the Project.

2. The riparian countries

(a) The Government of each of the riparian countries shall appoint a Counterpart Manager to act as liaison officer and assist the mission in its work. The Counterpart Managers shall, in particular, facilitate all useful contacts and obtain access to all available sources of information needed for the survey and for the drafting of the reports, of which advance copies shall be communicated to them;

(b) If necessary, the government of each of the riparian countries shall help the mission to secure the services of other local technicians to assist the counterpart manager;

(c) The government of each of the riparian countries shall place at the mission's disposal an adequate office during its stay in each capital;

/ d)

(d) The government of each of the riparian countries shall, when necessary during the stay of the members of the French mission, provide a jeep or a similar vehicle, with the understanding that sufficient notice shall be given each time the mission shall need such a vehicle.

When necessary, the government of each of the riparian countries will bear the cost of internal air transportation as well and of accommodation outside the capital;

(e) The government of each of the riparian countries shall make all necessary arrangements to place at the mission's disposal, in due time for implementation of the Project, all data, documents and reports concerning related investigations and studies being undertaken or to be undertaken in the future, including maps and aerial photographs;

(f) The government of each of the riparian countries shall, when necessary take the necessary steps to ensure the mission's safety.

3. The Co-ordination Committee

(a) The Committee shall make available to the mission all documents in its possession that are relevant to the survey.

(b) The Executive Agent shall ensure that the power market surveys undertaken are co-ordinated with those carried out for other organizations insofar as such co-ordination furthers the execution of this plan of operation.

(c) The Executive Agent shall undertake to have translated from French into English all reports received from the French Government.

/ CHAPTER VI

CHAPTER VI

REPORTS

1. The Project Manager shall submit to the Executive Agent quarterly progress reports with a detailed description of the work completed during the period under review, a percentage evaluation of the progress of the survey and relevant comments indicating whether this progress is satisfactory.

2. The French Government shall submit to the Committee a final report in French; plans and graphs shall however be in both languages.

/ CHAPTER VII

CHAPTER VII

SIGNATURES

Agreed, on behalf of the Parties, by the undersigned:

Date: 6 December 1962

(Signed) Phlek Chhat
For the Government of Cambodia

Date: 3 December 1962

(Signed) Phouangkèoh Phanareth
For the Government of Laos

Date: 28 November 1962

(Signed) Nitipat Jalichan
For the Government of Thailand

Date: 8 December 1962

(Signed) Pham-Minh-Duong
For the Government of the Repbulique of Viêt-Nam

Date: 11 February 1963

(Signed) J.D. Paolini
For the Government of France

Date: 28 November 1962

(Signed) C. Hart Schaaf
Executive Agent
Committee for Coordination of Investigations of the Lower Mekong Basin